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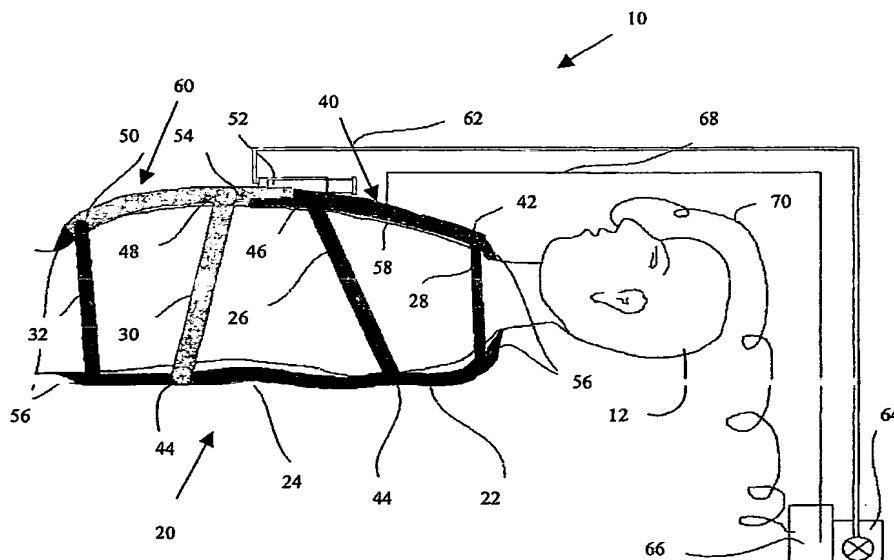
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- (54) Title: NEGATIVE PRESSURE VENTILATION AND RESUSCITATION SYSTEM**



- (57) Abstract:** A negative pressure ventilation system comprising a dynamically movable, multi-component artificial rib cage configured to fit snugly around the patient's own chest wall and abdomen is disclosed. The shape, dimensions and the dynamic movement of the artificial rib cage are designed to mimic those of the patient's own chest wall. The artificial rib cage includes an artificial spine to which are connected artificial ribs for forming an artificial chest wall including a sternum component. An abdominal component for placement on the patient's abdomen is connected to the chest wall component through a translating element which allows the abdominal component to move towards and away from the chest wall component. The chest wall and abdominal components cooperatively interact to allow the ventilator to move both the chest wall and abdomen during inspiration and expiration, mimicking the patient's own natural breathing pattern.



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